What is Claimed is:

1. An atomic absorption spectrophotometer comprising:

a lamp chamber for housing plural hollow cathode lamps;

a frame gas controller;

an analyzing chamber placed between the lamp chamber and the frame gas controller, and

an optical path through which a luminous flux travels in a straight line from the lamp chamber up to the analyzing chamber;

wherein an autosampler having a sample tray is placed on the top of the lamp chamber or on the top of the frame gas controller.

2. An atomic absorption spectrophotometer according to Claim 1, wherein:

said sample tray includes a large number of sample bottles which are arranged into an array lengthwise and crosswise on a quadrangular tray, and plural reagent bottles which are aligned in the lateral direction behind the sample bottles;

said autosampler comprising:

an X-axis driving mechanics which is placed behind the sample tray, and makes an arm for holding an aspiration needle drive in the lateral direction,;

a Y-axis driving mechanics which holds the sample tray at the position under the sample tray, and makes the sample tray move in the depth direction;

the X-axis driving mechanics and the Y-axis driving mechanics being used to select a sample.

3. An atomic absorption spectrophotometer according to Claim 2, comprising:

a housing section for units provided behind the lamp chamber, the analyzing chamber, and the frame gas controller, which are arranged along the optical path,

wherein in the housing section, a power unit is placed at the lower position, an optical unit having a photomultiplier is placed at the middle position, and the X-axis driving mechanics of the autosampler is placed at the upper position.

4. An atomic absorption spectrophotometer according to Claim 3, wherein:

a control circuit board for controlling the whole atomic absorption spectrophotometer is placed in the upper position of said housing section.

5. An atomic absorption spectrophotometer according to Claim 1, wherein:

said analyzing chamber constitutes a graphite furnace analyzing section, and which is equipped with a door on the front surface, the maintenance inside the

graphite furnace analyzing section can be performed through the door from the front side of the atomic absorption spectrophotometer.

6. An atomic absorption spectrophotometer according to Claim 2, comprising:

a microplate can be held on the sample tray instead of the sample bottles.

7. An atomic absorption spectrophotometer, wherein:

a lamp chamber for hollow cathode lamps, a frame gas controller, and an analyzing chamber are arranged at the front part of the upper surface of a bottom panel used as the base; the analyzing chamber is placed between the lamp chamber and the frame gas controller; said housing section for units is placed at the rear part of the bottom panel;

the height of said housing section is set higher than those of the analyzing chamber, the lamp chamber, and the frame gas controller, which are placed in front of said housing;

an optical path through which a luminous flux emitted by the hollow cathode travels, is provided from the lamp chamber up to the frame gas controller;

an autosampler having a sample tray is placed on the top of the lamp chamber or on the top of the frame gas controller; and

said autosampler comprising:

an X-axis driving mechanics which is provided in the housing section, and makes an arm for holding an aspiration needle drive in the lateral direction,;

a Y-axis driving mechanics which holds the sample tray at the position under the sample tray, and makes the sample tray move in the depth direction;

the X-axis driving mechanics and the Y-axis driving mechanics being used to select a sample.

8. An atomic absorption spectrophotometer according to Claim 7, wherein:

said sample tray includes a large number of sample bottles which are arranged into an array lengthwise and crosswise on a quadrangular tray, and reagent bottles which are aligned in the lateral direction behind the large number of sample bottles.

9. An atomic absorption spectrophotometer according to Claim 7, wherein:

said housing section for units is formed into a box-shape, and placed behind the lamp chamber, the frame gas controller, and the analyzing chamber;

wherein in the housing section, a power unit is placed at the lower position, an optical unit having a photomultiplier is placed at the middle position, and a control circuit board for controlling the whole atomic absorption spectrophotometer as well as the X-axis driving

mechanics of the autosampler is placed at the upper position.